

Claims

- 5 1. Composition which is obtainable as an extract from pine needles, having therapeutic activity, comprising isocupressic acid compounds in an amount of less than 0.01 wt% and further comprising one or more organic acids.
- 10 2. Composition according to Claim 1, which contains isocupressic acid compounds in an amount of less than 0.005 wt%, preferably less than 0.003 wt%.
- 15 3. Composition according to Claim 1 or Claim 2 comprising at least 2 components A and B, wherein A is a compound that is obtainable from a mixture of A and B by elution from a silica column using 100 % methanol as eluent and B is a compound obtainable from the same silica column using methanol/water mixtures (5-40 % by volume) in a series of subsequent elutions.
- 20 4. Composition according to Claim 3, wherein compound A is selected from the group consisting of phytosterol, polyphenols, bioflavonoids, tannins, organic acids and their complexes.
- 25 5. Composition according to Claim 3 or Claim 4, wherein compound B is selected from the group consisting of amino acids, peptides, proteins, quercetin, terpenoids, flavonol glycosides, biflavones, proanthocyanidins, polyphenols, lignans and minerals.
6. Composition as claimed in Claim 1 or Claim 2 which comprises a compound A selected from the group consisting of phytosterol, polyphenols,

bioflavonoids, tannins, organic acids and their complexes and a compound B selected from the group consisting of amino acids, peptides, proteins, quercetin, terpenoids, flavonol glycosides, biflavones, proanthocyanidins, polyprenols, lignans and minerals.

5

7. Composition according to any one of Claims 3 to 6, wherein A is present in an amount of from 5 to 60 wt %, preferably 10 to 50 wt%, most preferably 15 to 40 wt%, and B is present in an amount of from 1 to 15 wt %, preferably 2 to 12wt %, most preferably 3 to 10 wt%, based on the weight of the composition.

10

8. Composition according to any one of the preceding claims which comprises shikimic acid in an amount of from 10 % to 50 % by weight of the composition.

15

9. Composition according to any one of the preceding claims which comprises quinic acid in an amount of from 5 % to 30 % by weight of the composition.

10. Foodstuff, food supplement or pharmaceutical composition comprising a composition of any one of Claims 1 to 9.

20

11. Dairy based food product comprising a composition as claimed in any one of Claims 1 to 9.

25

12. Dairy based food product according to Claim 11 having a water content of from 0.5 to 99.5 wt %, preferably 20 to 90 wt%, most preferably 30 to 85 wt%.

30

13. Dairy based food product according to Claim 11 or Claim 12 which is an oil in water (O/W) emulsion, a bicontinuous emulsion or a duplex W/O/W emulsion.

14. Dairy based food product according to Claim 11, which is a cream, milk,  
water continuous or bicontinuous spread, confectionery or sweet spread,  
chocolate, snack bar, nutritional bar, ice cream, confectionery filling or  
5 topping, bakery filling or topping, yoghurt, drinkable yoghurt, curd cheese,  
milk shake, slimming drink, cheese or cheese spread.
15. Dairy based food product according to any one of Claims 11 to 14, comprising  
a fat phase that displays a solid fat content (measured by NMR on a non-  
10 stabilised fat) at 5°C (=N5) of >10, preferably >20, and at 35°C (=N35) of  
<20, preferably <10, most preferably less than 5.
16. Dairy based food product as claimed in any one of Claims 11 to 15 which is  
essentially free of trans fatty acids.
- 15
17. Dairy based food product according to any one of Claims 11 to 16 which  
comprises from 0.05wt% to 10wt% of the composition of any one of Claims 1  
to 9.
- 20
18. Dairy based food product according to any one of Claims 11 to 17 which has  
one or more of the following properties compared to a corresponding product  
that does not contain the composition: improved hardness, improved texture,  
improved aeration, improved spreadability, improved oral properties,  
improved mouthfeel, improved flavour, better colour, improved viscosity,  
25 improved whipping properties and improved ease of processing.
19. Composition as claimed in any one of Claims 1 to 9, foodstuff, food  
supplement or pharmaceutical composition as claimed in Claim 10 or dairy  
based food product as claimed in any one of Claims 11 to 17 for use to lower  
30 blood pressure in mammals, particularly in humans.

20. The use of a composition as claimed in any one of Claims 1 to 9, a foodstuff,  
food supplement or pharmaceutical composition as claimed in Claim 10 or a  
dairy based food product as claimed in any one of Claims 11 to 17 in the  
5 manufacture of an agent for lowering blood pressure in mammals, particularly  
in humans.
21. A method of lowering blood pressure in a mammal, particularly a human,  
which comprises providing the mammal with an effective amount of a  
10 composition as claimed in any one of Claims 1 to 9, a foodstuff, food  
supplement or pharmaceutical composition as claimed in Claim 10 or a dairy  
based food product as claimed in any one of Claims 11 to 17.
22. A method of improving one or more properties of a food product selected  
15 from hardness, texture, aeration, spreadability, oral properties, mouthfeel,  
flavour, colour, viscosity, shape retention, ease of processing and health  
properties, which comprises incorporating into the food product a composition  
comprising one or more organic compounds, said composition being  
obtainable as an extract from pine needles, having therapeutic activity and  
20 comprising isocupressic acid compounds in an amount of less than 0.01 wt%  
and further comprising one or more organic acids.
23. Use of a material comprising one or more organic compounds, said material  
being obtainable as an extract from pine needles, having therapeutic activity  
25 and comprising isocupressic acid compounds in an amount of less than 0.01  
wt% and further comprising one or more organic acids, for improving one or  
more properties of a food product selected from hardness, texture, aeration,  
spreadability, oral properties, mouthfeel, flavour, colour, viscosity, shape  
retention, ease of processing and health properties.

24. Process for producing the composition of any one of Claims 1 to 9, which comprises the following steps:

- 5           a. treating pine needles with a solvent selected from water, organic solvents and mixtures thereof, to form a first extract;
- b. removing isocupressic acid compounds from the first extract, preferably by treatment with an ion exchange resin; and
- 10          c. optionally, filtering and concentrating the treated extract to obtain the composition as a powder or a concentrate.

25. Process as claimed in Claim 24, wherein prior to step (a), the pine needles are pretreated with a non-polar solvent.